

FIG. 1

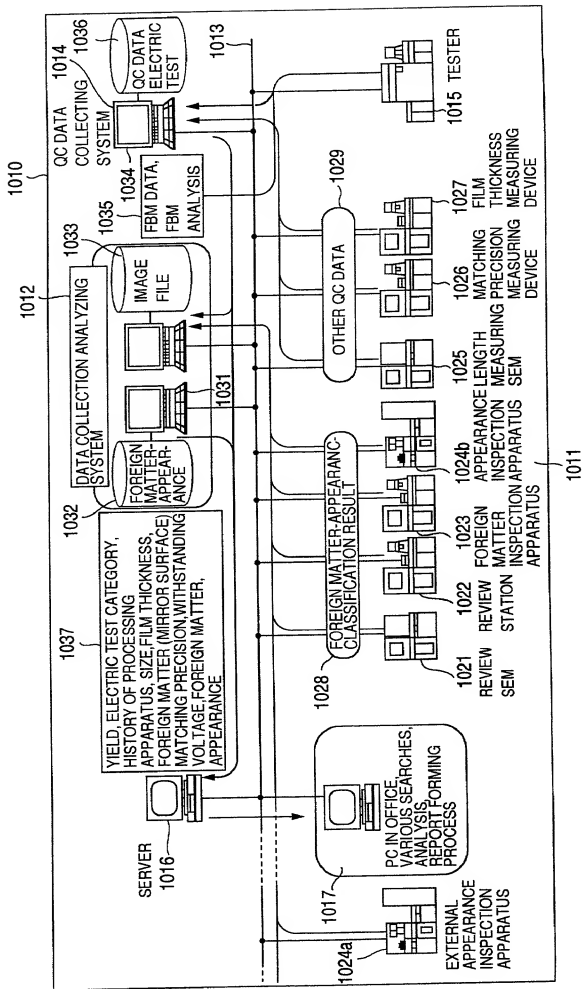
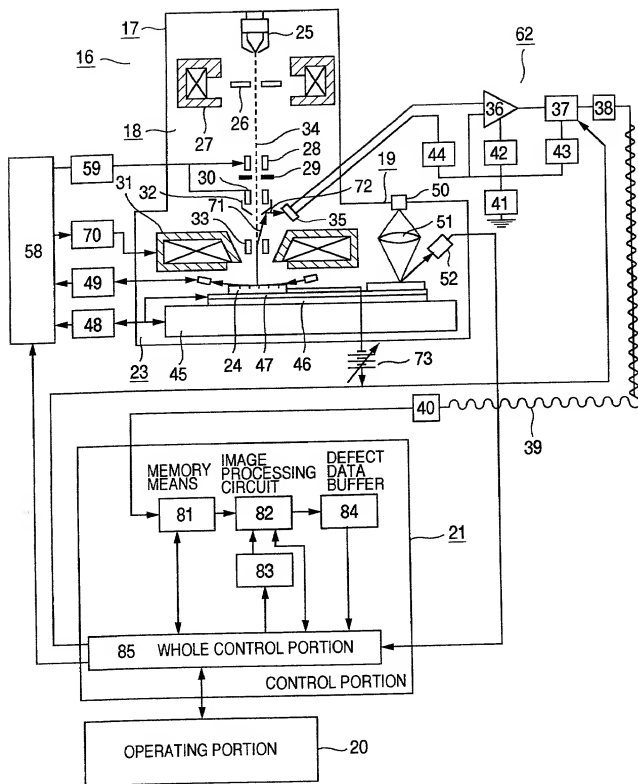


FIG.2



2022-2023

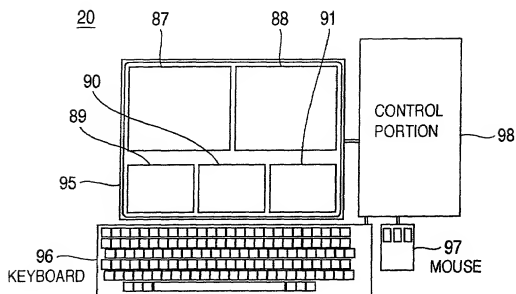


FIG.5

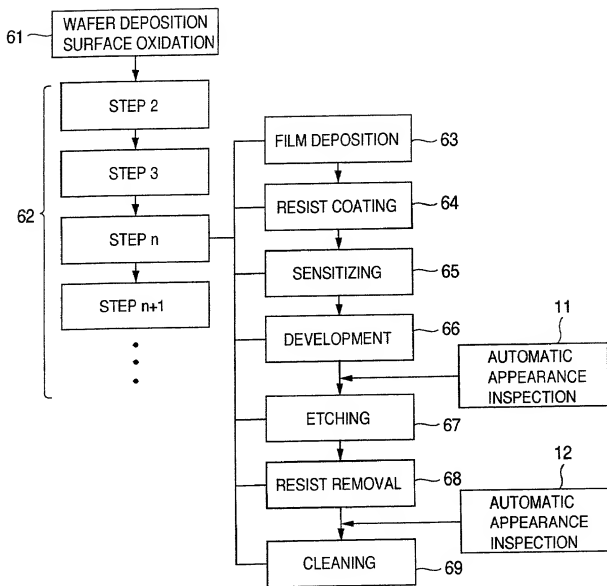


FIG.7

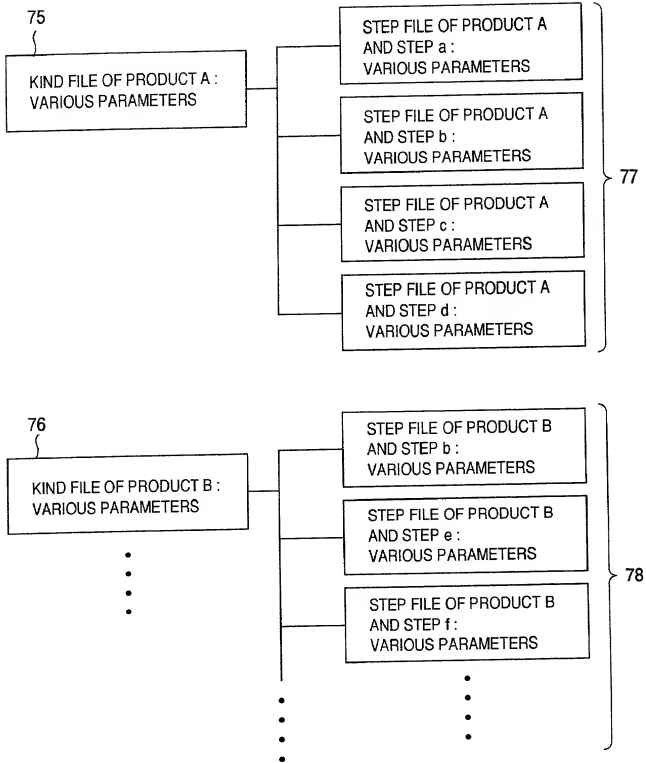


FIG.8

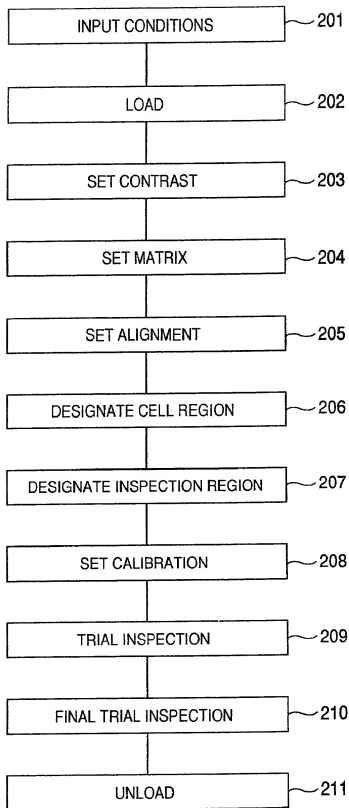


FIG.9

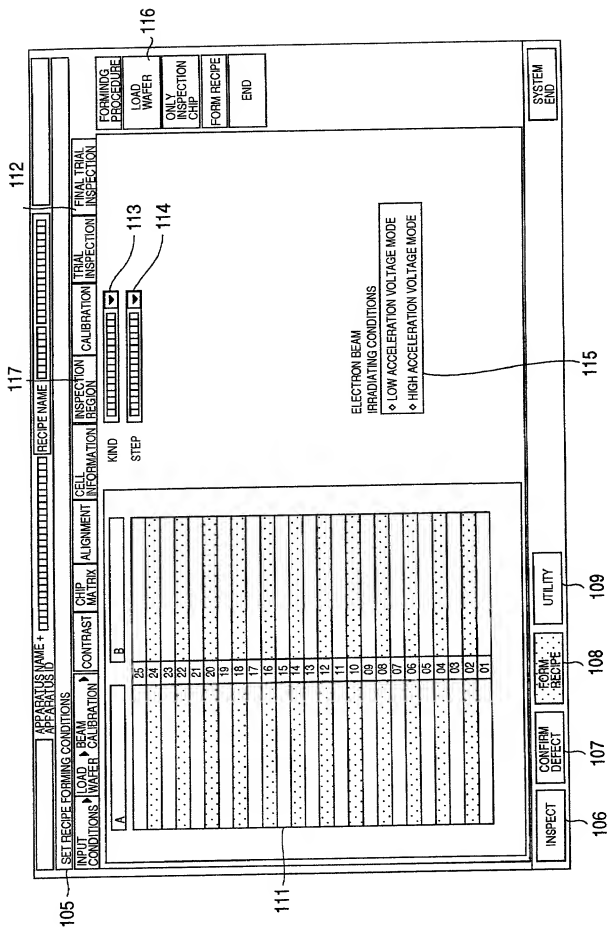


FIG.10

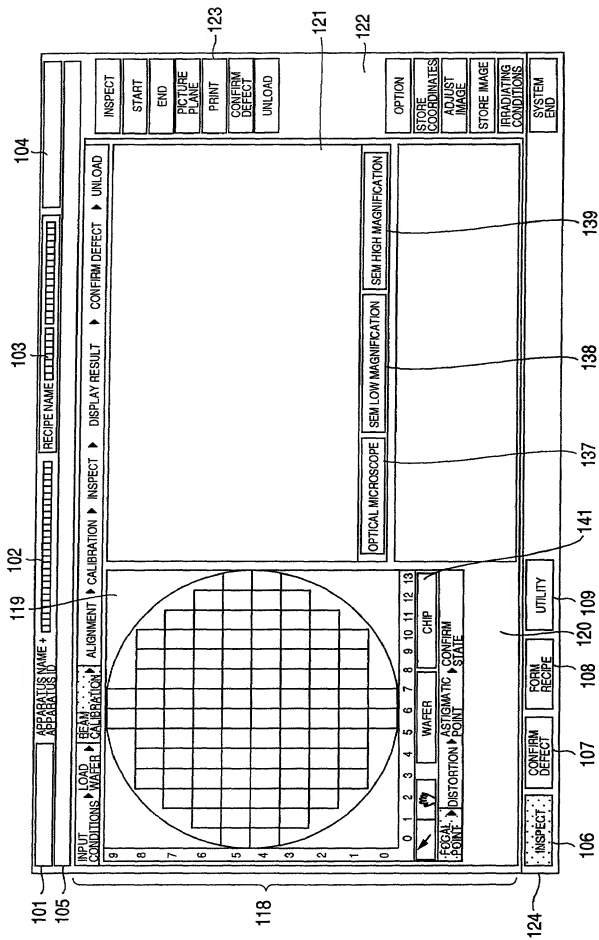


FIG.11

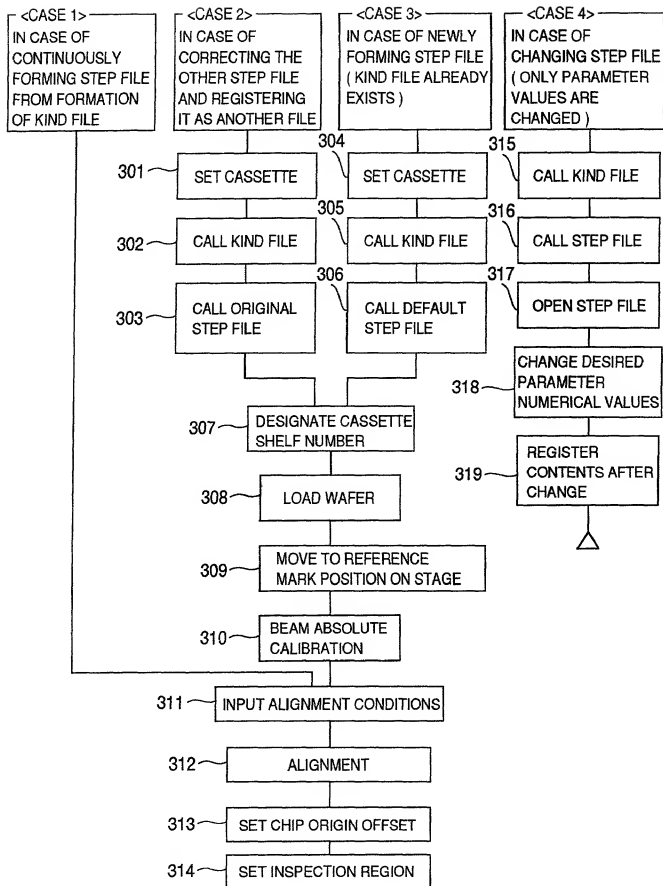


FIG.12

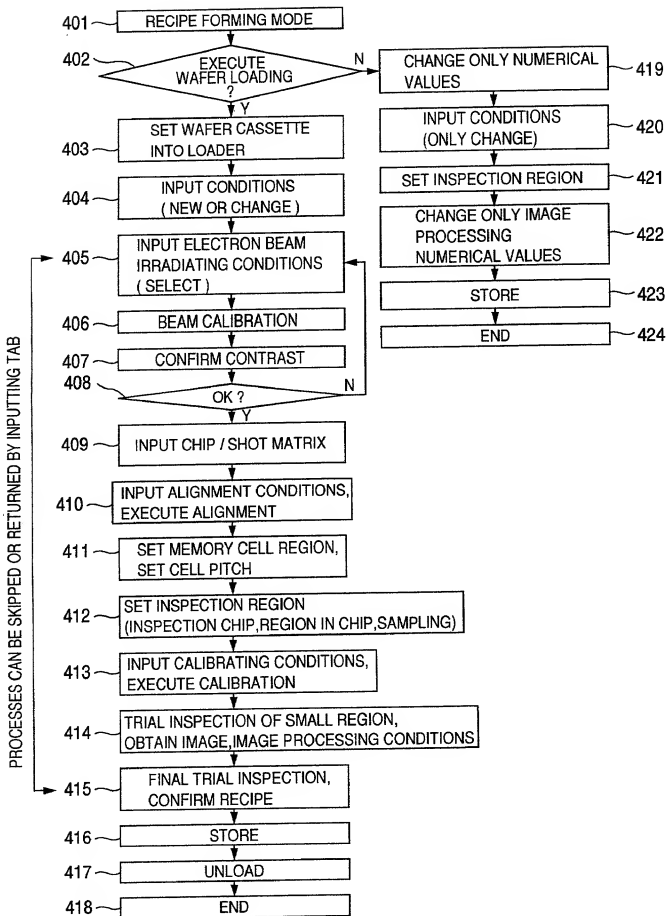


FIG.13

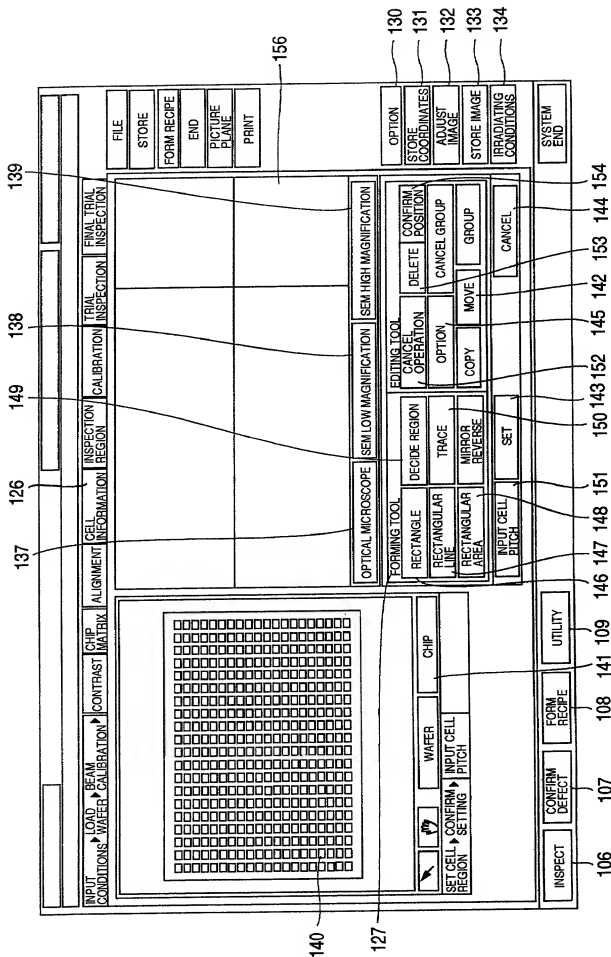


FIG.14

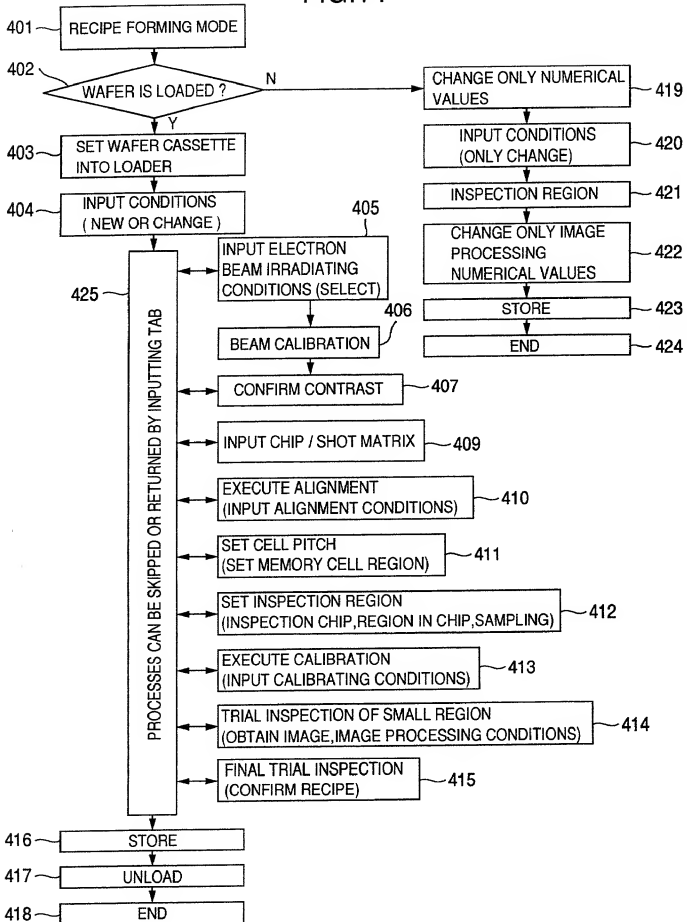


FIG.15

The figure shows a graphical user interface window titled "IRRADIATING CONDITIONS". The window is divided into several sections. At the top, there is a title bar with the text "IRRADIATING CONDITIONS" and a small square icon on the right. Below the title bar, there is a section titled "ELECTRON BEAM IRRADIATING CONDITIONS". This section contains two rows of input fields. The first row is labeled "ACCELERATION VOLTAGE" and has a text input field followed by a dropdown menu and the unit "V". The second row is labeled "BEAM CURRENT" and has a text input field followed by a dropdown menu and the unit "nA". Below this section, there is another section titled "OBTAIN SIGNAL". This section contains two rows of input fields. The first row is labeled "THE NUMBER OF SIGNAL" and "ADDING TIMES" and has a text input field followed by a dropdown menu and a checkbox. The second row is labeled "PIXEL SIZE" and has a text input field followed by a dropdown menu and the unit "μm". At the bottom of the window, there are two buttons: "SET" on the left and "CANCEL" on the right. The entire window is enclosed in a rectangular border. There are three labels with leader lines pointing to specific parts of the window: "92" points to the bottom border, "93" points to the "ELECTRON BEAM IRRADIATING CONDITIONS" section, and "94" points to the "OBTAIN SIGNAL" section.

IRRADIATING CONDITIONS

ELECTRON BEAM IRRADIATING CONDITIONS

ACCELERATION VOLTAGE ▾ V

BEAM CURRENT ▾ nA

OBTAIN SIGNAL

THE NUMBER OF SIGNAL ▾ ☐

ADDING TIMES

PIXEL SIZE ▾ μm

SET CANCEL

92 93 94

FIG.16

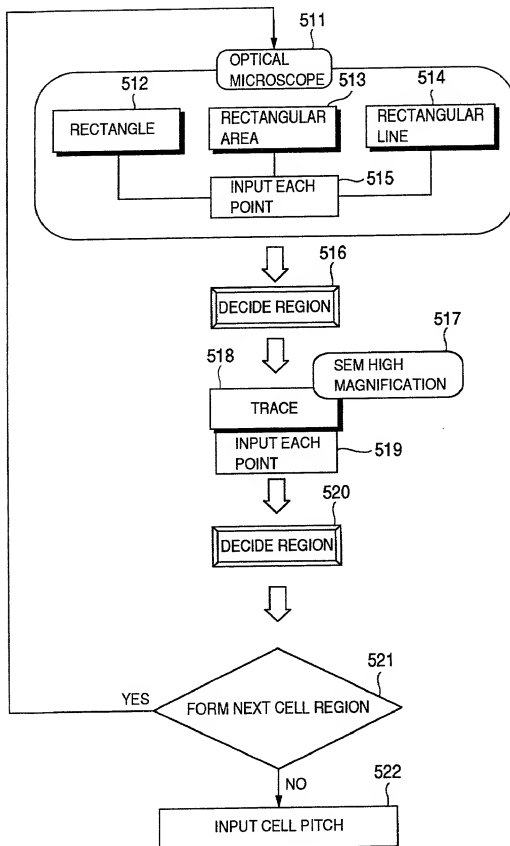


FIG.17

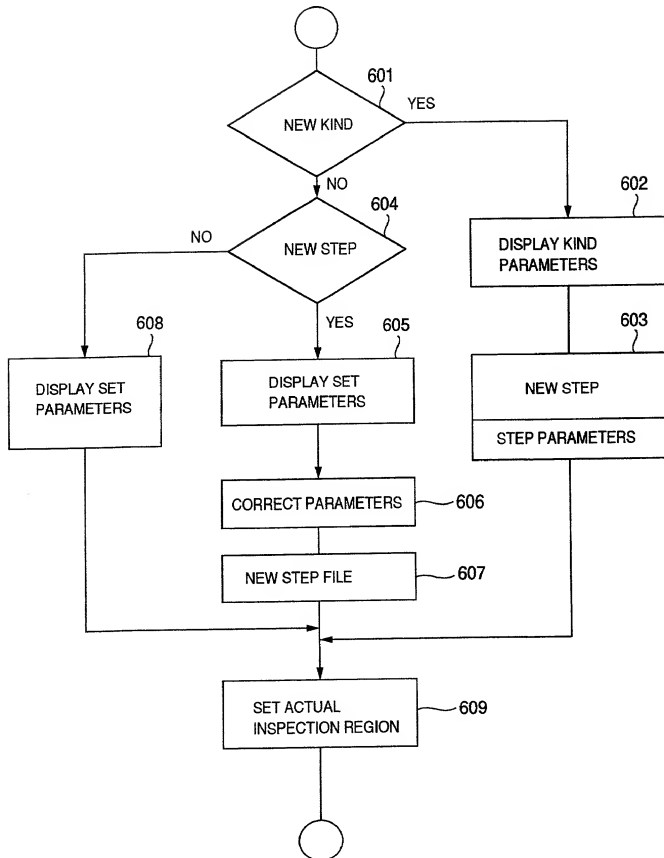


FIG.18

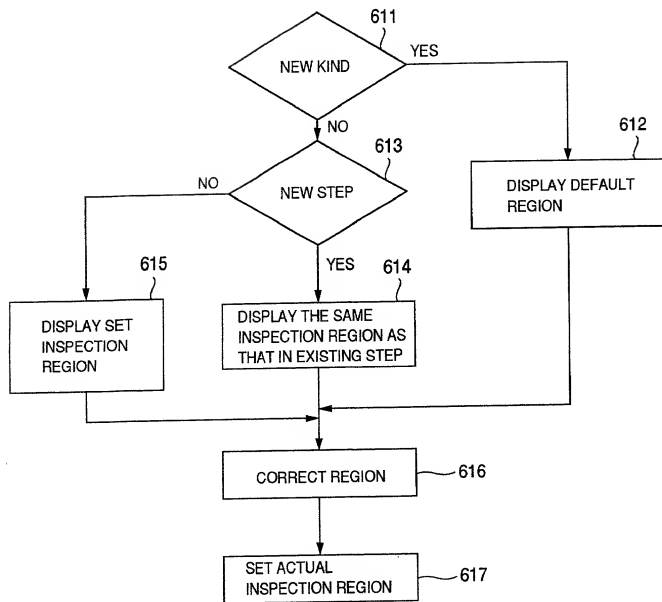


FIG.19

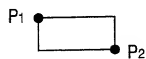


FIG.20

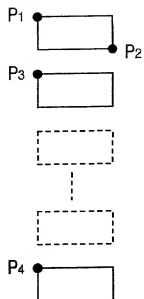


FIG.21

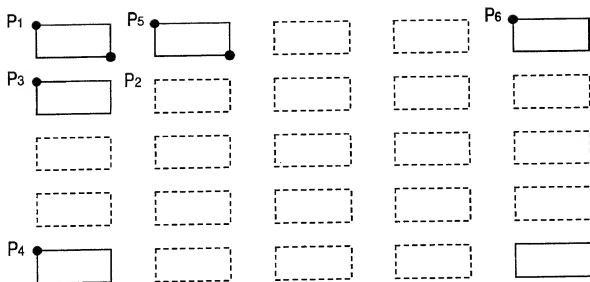


FIG.22

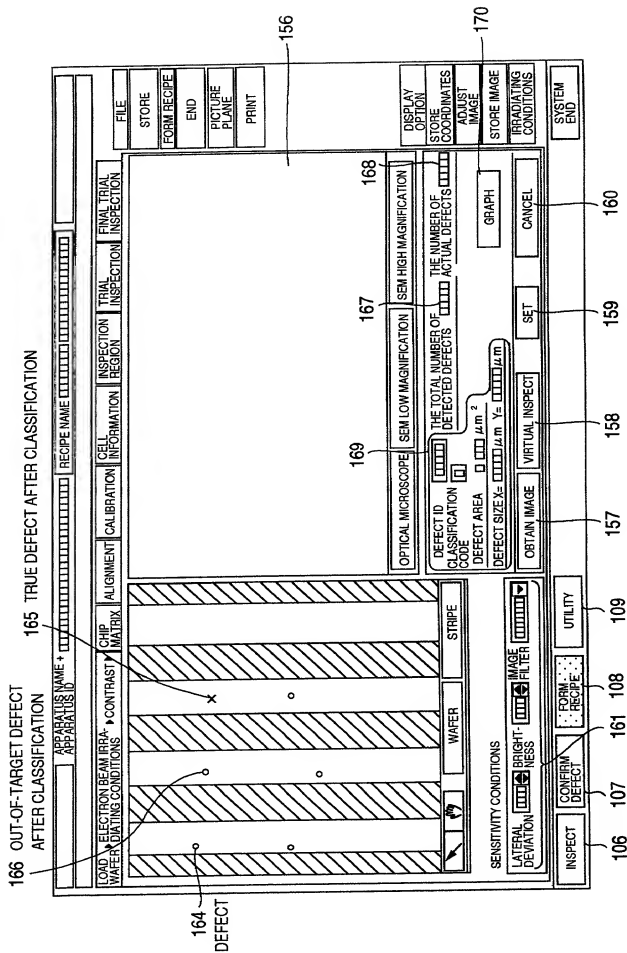


FIG. 23

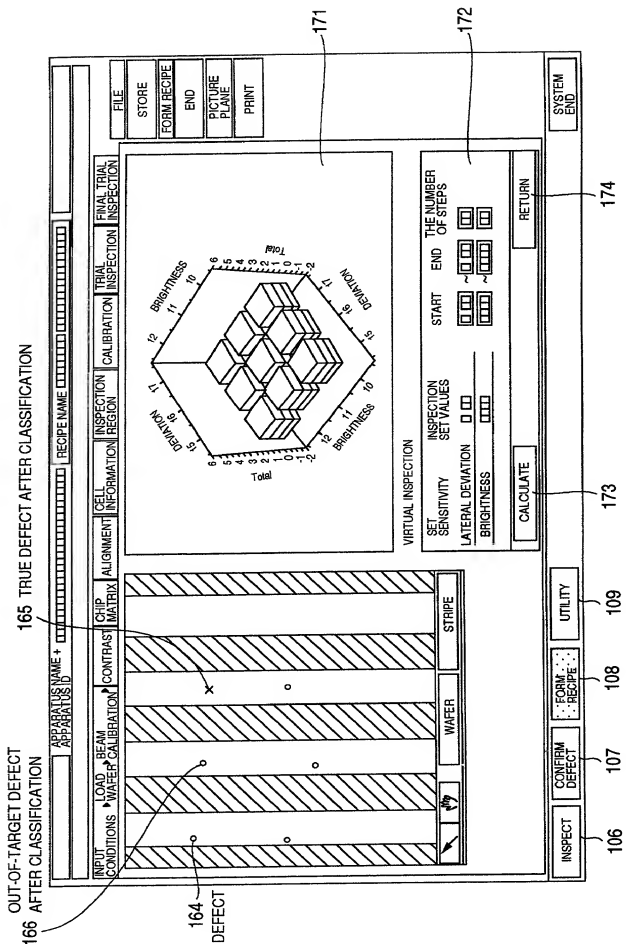


FIG.24A

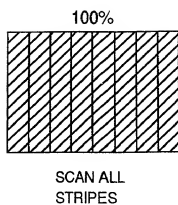


FIG.24B

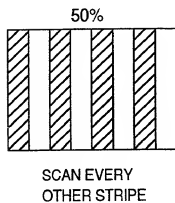
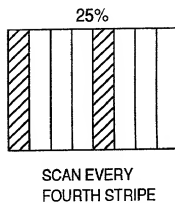


FIG.24C



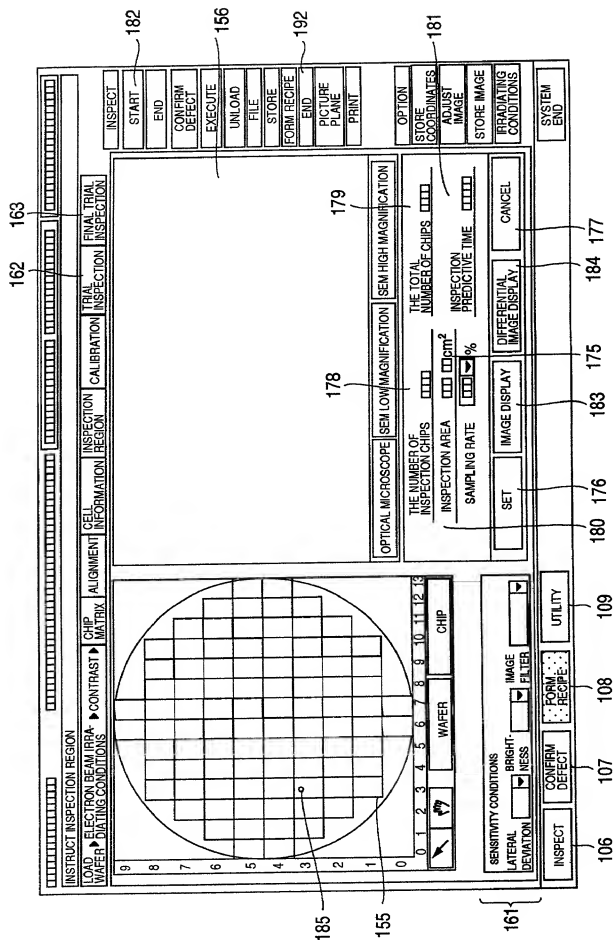


FIG.27

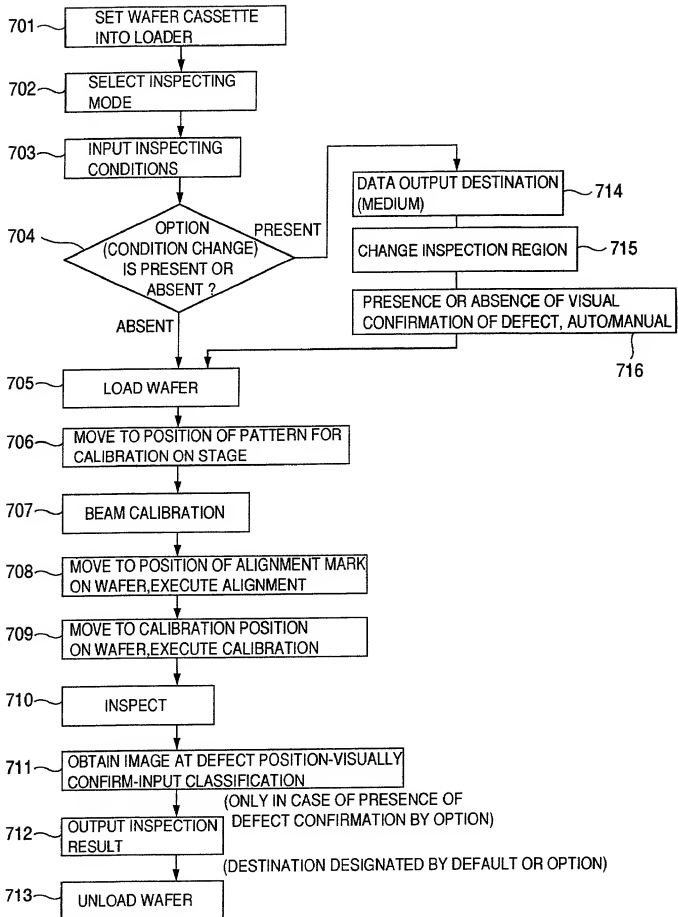


FIG.28

105

111

136

135

106

107

108

109

SYSTEM END

INPUT INSPECTING CONDITIONS

INPUT CONDITIONS ▶ LOAD BEAM CALIBRATION ▶ ALIGNMENT ▶ CALIBRATION ▶ INSPECT ▶ DISPLAY RESULT ▶ CONFIRM DEFECT ▶ UNLOAD

INSPECT START

SHELF NUMBER

KIND

STEP

LOT ID

WAFER ID

OPERATOR

COMMENT

A

B

25

24

23

22

21

20

19

18

17

16

15 DURING INPUT OF CONDITIONS

14

13

12

11

10

09

08

07

06

05

04

03

02

01

FORM RECIPE

UTILITY

FIG.29

105

908

909

910

106 107 108 109

INPUT CONDITIONS ▶ LOADING ▶ WAFER CALIBRATION ▶ ALIGNMENT ▶ CALIBRATION ▶ INSPECT ▶ DISPLAY RESULT ▶ CONFIRM DEFECT ▶ UNLOAD

INSPECT START END PICTURE PLANE PRINT

PROGRESS OF INSPECTION

THE NUMBER OF DEFECTS 216

THE NUMBER OF DEFECTIVE CHIPS 54

DEFECT DENSITY 3.021

FAILURE CHIP RATE 100.00 %

INSPECTION TIME

INSPECTION END TIME

SHELF NUMBER B15

KIND HQJ1

STEP Holjpro

WAFER ID 22 LOT ID 11

OPERATOR BORIOKA HIROSHI

COMMENT print

INSPECT CONFIRM DEFECT FORM RECPE UTILITY

SYSTEM END

0 1 2 3 4 5 6 7 8 9 10 11 12 13

20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1 0

CHIP

WAFER

THE NUMBER OF INSPECTION CHIPS 54

SAMPLING RATE 2.000%

START TIME 14:41

END PREDICTIVE TIME 14:52

FIG. 31

918

STATUS NAME +
APPARATUS ID

RECIPE NAME

SET INSPECTING CONDITIONS

INPUT CONDITIONS ▶ LOAD ▶ BEAM
WAFER CALIBRATION ▶ ALIGNMENT ▶ CALIBRATION ▶ INSPECT ▶ DISPLAY RESULT ▶ CONFIRM DEFECT ▶ UNLOAD

CHANGE RESULT OUTPUT DESTINATION

SHELF NUMBER

H/D
F/D
M/O
J AS
J PRINTER

STANDARD
OPTION

SET CANCEL

11
TO
09
08
08
07
06
05
04
03
02
01

SHELF NUMBER

KIND

STEP

LOT ID

WAFER ID

OPERATOR NAME

COMMENT

OPTION

NEW

920

919

INSPECT
START
END
PICTURE PLANE
PRINT

907

CHANGE INSPECTION REGION
CHANGE RESULT OUTPUT DESTINATION
CHANGE OPERATING CONDITIONS

917

SYSTEM END

106

107

108

109

INSPECT
CONFIRM DEFECT
FORM RECIPE
UTILITY

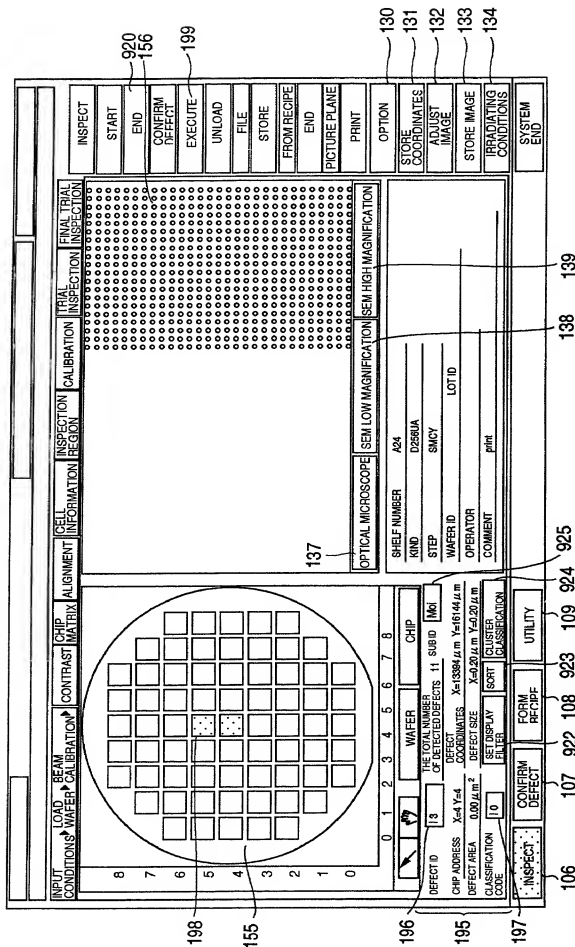


FIG.33

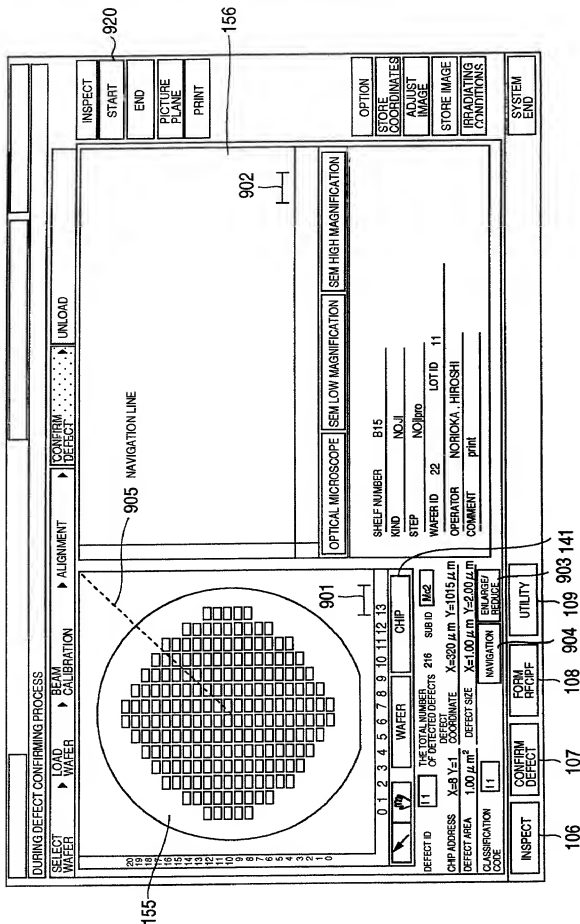


FIG. 34

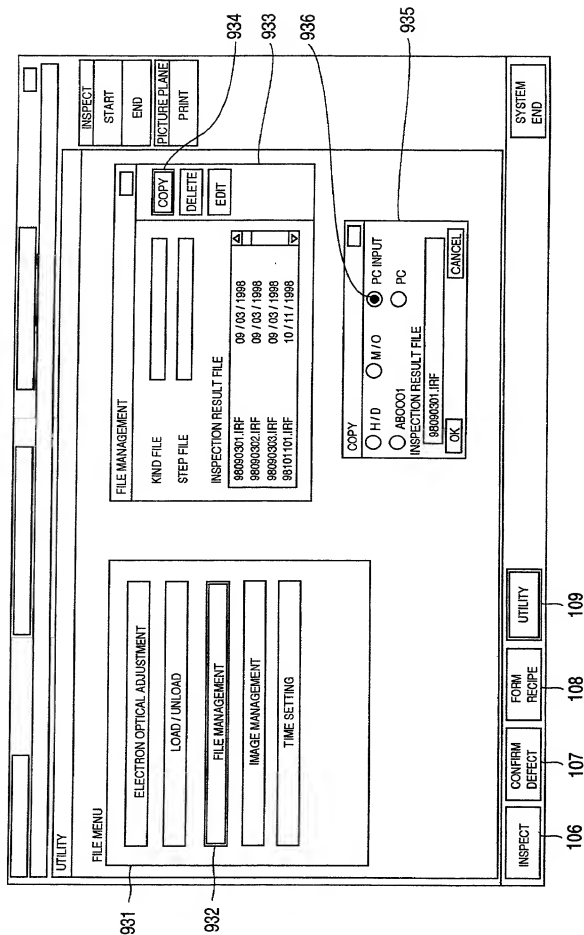


FIG.35

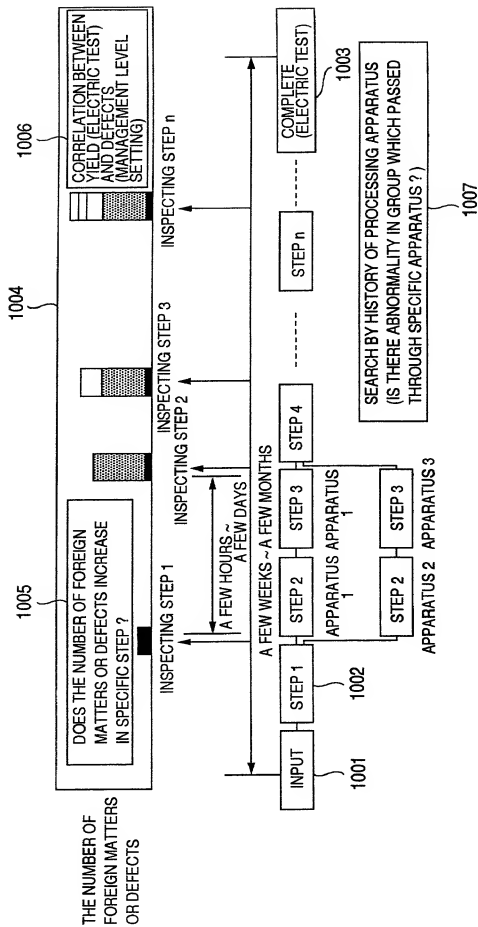


FIG.36

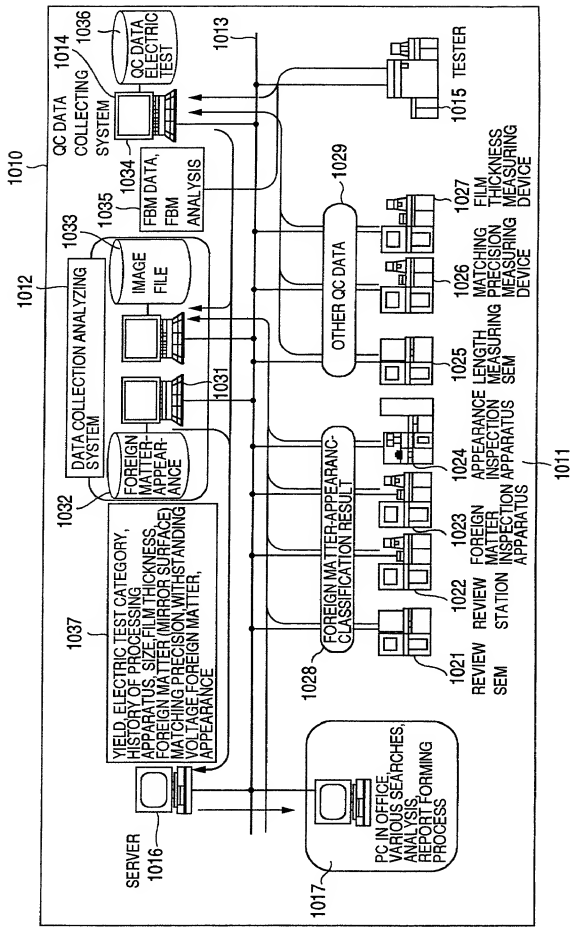


FIG. 37

